Work Orde		·	n 4	148-3	*108	R524*						Page 1
Item ID:	D4148-3 Stud Recei	er versende er er en en en er en	B 1	0 8 5 2 4	Accept	*N900	<u>040</u>	100)*	Setup Star	I /J	S1* S2*
Start Date: Required Date: Reference:	10/17/13 10/17/13	Start Qty: Req'd Qty		*10 *10		Cust Item Customer:	ID:					
Approvals:				Date: <u>/3-/0</u> Date:	-/7 Tooling: SPC (Y/N):		ate:			Run Sta	n '' \	R1* R2*
Sequence ID/ Work Center II)	Operation Description	1		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	F	Revision Nbr	:									-
D4148 100 *100 Bandsaw Jeaspa Bandsaw			per folio Jemo .350" LONG		0.00	13/10/	A 25		İδ	d		
110 *110* HAAS I HAAS CNC vertical	machine #1	N F	Aemo AACHINE A: OLIO REV:_ DWG REV:_	S PER FOLI FA944	0.00 0.00 AND DWG				_/0_		·.	L13-10-23

DEBURR

											DQA:	Date	2:
NCR: Y	es /	No				WORK ORDER NON-C	CON	FORN	AANCE / UPI	DATE	QA Closed:	Date	·
Work Orde						DISPOSITION				AGAINST DE			
Part N						Rework Scrap Use-as-is Work Order Update	Scrap Machining Small Fab Use-as-is Thermoforming Finishing			Small Fab Finishing	4	Water Jet d. Eng. Coor. e/Packaging Supplier	Engineering Quality Other
Root			·		Descri	ption of work order update	In	itial	Act	tion	Sign &		
Cause		Date	Step	Qty	(or Non-conformance	Chi	ef Eng	Desci	ription	Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved													
							AULT	CATE	3ORY				
Landi	Be Ce Cr Cr Cr	ending entre No racks rushed/G uffs eat Trea	t Concer Crimped t a Strip in		o/s	General Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short		•	on incomplete ions incomplete/l nance iled	Unclear	Ovalized Over/Under Part Incorred Part Lost/Mi Part Moved Positioned V Power Loss/	ssing Vrong	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other
[\vdash	pples in				Drill Holes	\Box	Offset	Offset			_	

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

October-17-13 1:51:13 PM

Revision ID:	D4148-3 Stud Receive		TO 1	Accept	*N900	040)* s	etup Start	*N:	
	10/17/13	Start Qty: 10.00 Req'd Qty: 10.00	*10* *10*		Cust Item I Customer:	D:					
Approvals:		lan:		Tooling:		ate:		R	un Star Stop	17	R1* R2*
Sequence ID/ Work Center II 120 *170* QC Quality Control)	Operation Description QC2- Inspect parts off ma	achine FAI/FAIB	Set Up/ Run Hours 0.00	Tool ID	Tool#	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp SLB-10-Z
130 *130* QC Quality Control		QC8- Inspect parts - seco	and check	0.00	ent 13/101	28		10	_6_		
170 *170* Packaging Packaging		Identify as per dwg & Sto	ock Location: 6A	0.00				10×	DAS9-89	13-1C)-29

												DQA:	Da	ate:	
NCR:	Yes	/ No				WORK ORDER NON-CONFORMANCE / UPDATE									
												QA Closed:	Da	ite:	
Work Ord	oř.					DISPOSITION				AGAINST DEPARTMENT/PROCESS					
WOIK OIL	C1.					Rework	٦		Skid-tube	Crosstube	٦		Water Jet		Engineering
Part 1	No.					Scrap	1		Machining	Small Fab	┪	Pro	d. Eng. Coor.	\vdash	Quality
						Use-as-is	1		noforming	Finishing	┪	l .	re/Packaging	_	Other
NCR	No.					Work Order Update]		Large Fab	Composite			Supplier	·[
			•					<u> </u>			_	· · · · · · · · · · · · · · · · · · ·			
Root						ption of work order update		Initial		ction		Sign &	_		
Cause		Date	Step	Qty		or Non-conformance	Cr	nief Eng	Desc	ription		Date	Verification	n	QC Inspector
Doc/Data	_						1								
Equip/Tooling	<u> </u>										١				
Operator	L		1					:				,			
Material	_										١				
Setup											١				
Other															
Process											-				
Supplier	<u> </u>														
Training			ļ				ĺ								
Unapproved	L		<u> </u>	<u></u>							╛				
							AUI	LT CATE	GORY		_	1 11 11			
Land	ing (7			_	General	_	- .		_	_	1		_	1 .
	\vdash	Bending			_	Bend	<u> </u>	Grain		<u> </u>		Ovalized		<u> </u>	Pressure/Forced
	L	Centre N	ot Conce	ntric to	o/s	BOM/Route	\perp	Hardwa			-	Over/Under		\vdash	Temperature/Cure
	\vdash	Cracks			<u> </u>	Broken/Damaged	 	- i	on incomplete	_	-	Part Incorre		_	Weld
	<u></u>	Crushed/	Crimped		<u> </u> _	Burrs	\vdash	-1	ions Incomplete	/Unclear	_	Part Lost/Mi	ssing		Wrong Stock Pulled
		Cuffs			L	Contamination	<u> </u>	Mainte			-	Part Moved			
		Heat Trea	at			Countersink	\perp	Mislabe	eled			Positioned V	Vrong	_	1
	1	Inspectio	n Strip in	Tube		Cut Too Short	1	Misread	ł		-	Power Loss/	Surge		Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Torque Waves in Extrusion

Drill Holes

Drawing

Finish Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work Orde	r ID 1			*108			Page 3			
Revision ID:	D4148-3 Stud Receiv	er. Lower		Accept	*N900	040100	* Setu	p Start Stop	*NS1* *NS2*	
	10/17/13	Start Qty: 10.00 Req'd Qty: 10.00	*10* *10*		Cust Item II Customer:	D:			14.17	
Approvals:	Process P QC:	lan:	Date:	Tooling: SPC (Y/N):		te:	Run	Start Stop	*NR1* *NR2*	
Sequence ID/ Work Center II)	Operation Description QC21- Final Inspection -	Work Order Release	Set Up/ Run Hours	Tool ID	Tool # Plan Code	•	•	Reject Insp. Number Stamp	
120		Memo		0.00		9	1/4/	, , , , , , ,		

Memo

Quality Control

MF 12/0/29

											DQA:	Date	e: _	
NCR:	⁄es	/ No				WORK ORDER NON-	100	NFORM	AANCE / UPDATE				•	
								•			QA Closed:	Date	e:	
Work Orde	er:					DISPOSITION		AGAINST DEPARTMENT/PROCESS						
Part I	No.					Rework Skid-tube Crosstu Scrap Machining Small I Use-as-is Thermoforming Finish Work Order Update Large Fab Compos			Fab hing	Prod. Eng. Coor. Rec/Store/Packaging			Engineering Quality Other	
Root					Descri	ption of work order update		Initial	Action		Sign &			
Cause		Date	Step	Qty	(or Non-conformance	Ch	nief Eng	Description		Date	Verification		QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved			-											
							AUI	LT CATE	GORY					
Landi	_	3			_	General		7		_	1	_		
	<u> </u>	Bending			L	Bend		Grain			Ovalized		-	Pressure/Forced
	L	Centre N	ot Conce	ntric to	o/s	BOM/Route	\perp	Hardwa	re		Over/Under	tolerance	_	Temperature/Cure
	L_	Cracks				Broken/Damaged		4 `	on Incomplete		Part Incorre	ct	┵	Weld
Crushed/Crimped Burrs						Instruct	ions Incomplete/Unclear		Part Lost/M	issing		Wrong Stock Pulled		
Cuffs Contamination						L	Mainte	enance		Part Moved				
		Heat Trea	at			Countersink		Mislabe	led		Positioned V	Vrong		
		Inspectio	n Strip in	Tube		Cut Too Short		Misread Power Loss/Surge Other				Other		

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Torque Waves in Extrusion

Drill Holes

Drawing

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

October-17-13 1:51:13 PM

Work Order ID:

108524

Parent Item:

D4148-3

Parent Item Name:

Stud Receiver, Lower

Start Date: 10/17/13

Required Date: 10/17/13

Start Qty: 10.00

Required Qty: 10.00

Comments:

IPP REV:A NEW ISSUE 10-06-24 JLM VERIFIED BY:DD

DD IPP REV:B 11.03.02 AS PER

	DWG REV.D DD	VERF:EC	IPP REV:(C 13.08.21 D	WG REV.E / E	CN 13-624 L	DD VERF:JI	_M					
Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M303B1.000X03.000 303 BAR 1" X 3'		Purchased	No			100	f	10.1700	0.48	4.8	DA. 1	م.لا	
JOS BART X S				Location		Loc Oty	Lo	c Code			13/10/	25	
				MAT049		10.17							
				123	954	6.37			<i>4.</i> 5	08 ft			
				124	.070	3.8			•				

DQA:	Date:	
DQA:	Date.	

Yes / No

Folio

WORK ORDER NON-CONFORMANCE / UPDATE

NCR: Y	es / No				WORK ORDER NON-O	CONFO	RMANCE / UP	DATE			
									QA Closed:	Date	:
Work Orde	r: .				DISPOSITION			AGAINST DE	PARTMENT	/PROCESS	
Part N	o				Rework Scrap Use-as-is	The	Skid-tube Machining rmoforming	Crosstube Small Fab Finishing	4	Water Jet d. Eng. Coor. re/Packaging	Engineering Quality Other
NCR N	0			 	Work Order Update]	Large Fab	Composite		Supplier	
Root				Descri	ption of work order update	Initial	Ac	tion	Sign &		
Cause	Date	Step	Qty	(or Non-conformance	Chief E	ng Desc	cription	Date	Verification	QC Inspector
Doc/Data						ļ					
quip/Tooling					·	1					
Operator	_										
Material	_										
Setup											
Other	_					1					
Process	_										
Supplier	_	ļ	l		*						
Training	_										
Unapproved			<u>i</u>			ALUTCA	TECORY			1	
Landin	ng Gear		'-		General	AULT CA	IEGURT				
Landin	Bending			<u> </u>	Bend	Grai	n		Ovalized		Pressure/Forced
ŀ	Centre N	ot Conce	ntric to		BOM/Route	\vdash	ware	-	Over/Under	tolerance	Temperature/Cure
ŀ	Cracks	or conce	incine co	~,	Broken/Damaged	\vdash	ection Incomplete		Part Incorre	 	Weld
ŀ	Crushed/	Crimned		-	Burrs	-	uctions Incomplete/	/Unclear	Part Lost/M	<u> </u>	Wrong Stock Pulled
ŀ	Cuffs			<u> </u>	Contamination		ntenance		Part Moved	_	
	Heat Trea	at			Countersink	\vdash	abeled		Positioned V	Vrong	
Ì	Inspectio		Tube	-	Cut Too Short	Misr		,	Power Loss/	· -	Other
	Ripples in				Drill Holes	Offse		<u> </u>		~ <u>_</u>	
	Torque V		Extrusio	n	Drawing	Out	of Calibration				
	Turning S	Sequence			Finish	Out	of Sequence		*****		

Outside Dimensions

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Wave/Twist in Tube

DART AEROSPACE LTD	Work Order:	108529
Description: Stud Receiver Lower	Part Number:	D4148-3
Inspection Dwg: D4148 Rev: A ECA		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.50	+/-0.030	- 501			vern	SL-10
1.00	+/-0.030	1.000			^	
0.91	+/-0.030	-910				
0.375	+/-0.010	375				
1.982	+/-0.010	1.982				
3.000	+/-0.010	3 000				
1.000	+/-0.010	1.001				
3.76	+/-0.030	3765				
0.735	+0.000/-0.010	-732				
Ø0.453	+0.010/-0.000	-455				
Ø0.250	+0.005/-0.001	-251				
0.80	+/-0.030	20				
0.06 x 45°	+/-0.030 x 0.5°	085X45°				
0.625	+/-0.010	-625				
4.65	+/-0.030	4.647				
J. 266	+-000	-266				
					<u> </u>	

Measured by:	7	Audited by:	ant.	Preliminary Approval:	
Date: 2	3-10-26	Date:	13/10/28	Date:	

Rev	Date	Change	Revised by	Approved
Α	10.08.04	New Issue	KJ	
В	10.08.18	Dimensions updated per Dwg Rev B	KJ	
Ċ	10.11.09	Dimensions updated per Dwg Rev C	KJ 🔥	- 11
D	11.04.05	Dwg Rev updated	KJ K	<u> </u>
				1

11 FW	-041	P/N	DESCRIPTION	1
	X	D4148-041	FWD X-TUBE LUG ASSY	
1	1	D2690-6	LANYARD	\dashv
2	1	D3910-1	X-TUBE LUG	\neg
3	1	D4091-1	MOUNTING LUG	
4	2	D4148-1	FWD X-TUBE LUG PLATE	D
5	1	D4148-3	STUD RECEIVER LOWER	
6	1	D4148-5	EYEBOLT STUD	
7	2	AN3C12A	BOLT	7
8	3	AN4C13A	BOLT	
9	1	MS17984-C413	PIN, QUICK RELEASE	
10	8	MS20615-4M18	RIVET, SOLID, PAN-HEAD	\neg
11	2	MS21043C3	NUT, SELF-LOCKING	
12	3	MS21043C4	NUT, SELF-LOCKING	
13	4	NAS1149C0332R	WASHER	
14	6	NAS1149C0432R	WASHER	

108524 MLJ F1-0-131

С

E	B6-4 Ø0.266 HOLE ADDED FOR CARGO TUBE INSTALLATIONS.	AJS	13.07.22
Đ	HOLE DIA CHANGED TO 0.252° (D6-3); HOLE DIA CHANGED TO 0.250° (C8-5); REPLACED OTY(2) AN3C12A, MS21043C3 AND QTY(4) NAS1149C0332R WITH QTY(2) AN4C13A, MS21043C4 AND QTY(4) NAS1149C0432R (D3-1.C4-2)	sc	11.02.22
С	REDESIGNED D4148-1/-3 TO ADDRESS COMPATIBILITY ISSUES WITH D350-591 SHORT STEPS	мв	10.10,12
В	REPLACED OTY(3) MS20615-4M18 WITH OTY(2) EACH AN3C12A. MS21043-3 AND OTY(4) NAS1149C0332P WASHER (ZN D3-1, 87-2 & 84-2); MS20615-4M18 WAS MS20615-4M20 CN D3-1 & 67-2); Ø0.191 2 PL REPLACES Ø0.129 3 PL (ZN D6-3), Ø0.129 7 PL WAS 10 PL (ZN A7-3); Ø0.191 WAS 0.129 (ZN C8-5). REASON. SEC TR-0350-607-2 REV. B.	мв	10.07.05
Α	NEW ISSUE	MB	10.06.18
REV.	DESCRIPTION	BY	DATE

DESIGN	MB	DART AEROSPACE LTD	
DRAWN AJS		HAWKESBURY, ONTARIO, CANADA	
CHECKED 4		DRAWING NO.	REV. E
MFG. APPR.	Lild	D4148	SHEET 1 OF 5
APPROVED	ZWH	TITLE	SCALE
DE APPR.		FWD X-TUBE LUG ASSY	NTS
DATE 13.0	07.22	COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PROVIDE AND COMPRIDITION, AND S SUPPLES ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR MAY NUMBED ON COMPANION TO THE PRISON WITHOUT	

D4148-041 FWD X-TUBE LUG ASSY

NOTES:
1) MATÉRIAL: N/A
2) FINISH: NONE
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: N/A
6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4148-041" PER DART QSI 044 6.1
7) WEIGHT: 3.66 lbs
8) ATTACH D2690-6 TO D4148-1 BY LOOPING AROUND A LIGHTENING HOLE FIRST AND THEN SECURE TO MS17984-C413







